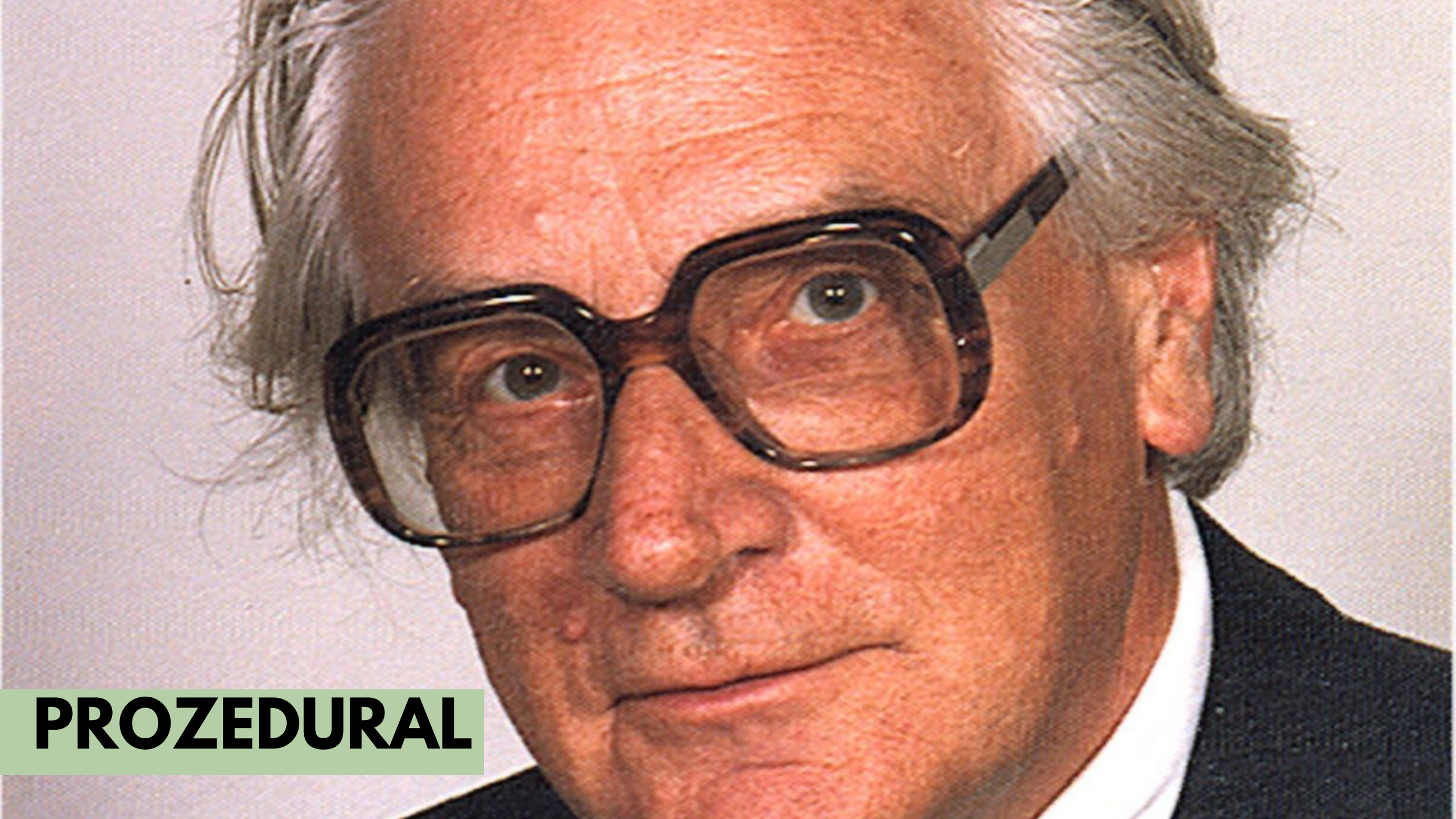


I HAVE A STREAM

EINSICHTEN IN REACTIVE PROGRAMMING



JAN CARSTEN LOHMULLER
WPS – WORKPLACE SOLUTIONS



PROZEDURAL



OBJEKTORIENTIERT



FUNKTIONAL



REACTIVE

[1, 2, 3, 4, 5, 6]

x=100

x=234

x=234

x=144

x=305

x=226

y=1

y=634

y=137

y=680

y=32

y=227

```
Filter( $\lambda \Rightarrow \lambda.x > 200$ )
```



ITERATOR

OBSERVER





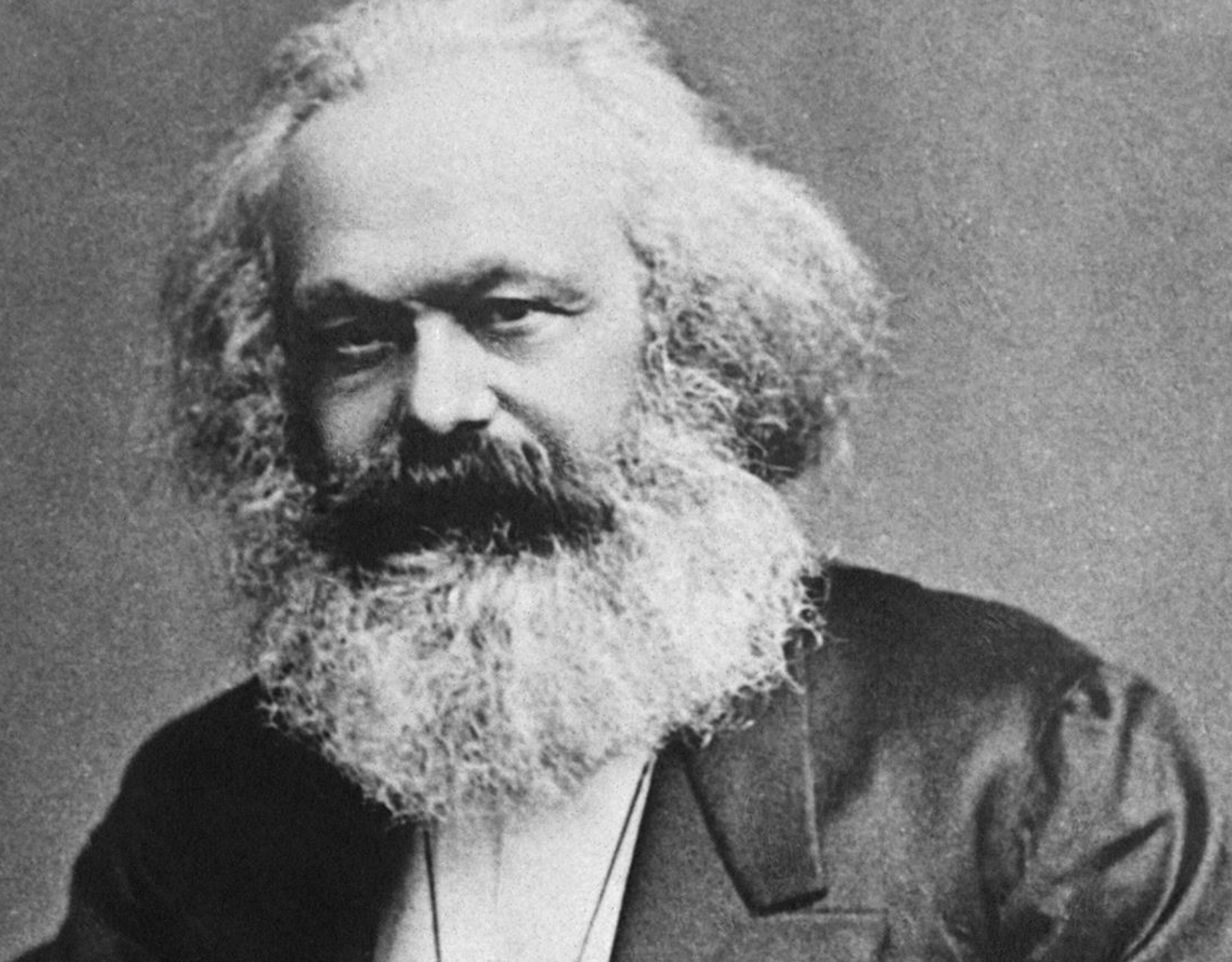
OBSERVABLE

```

private const string connectionString = @"Data Source=.\SQLSERVER;" +
@"Initial Catalog=AdventureWorksLT2008;Integrated Security=SSPI;"
private static IObservable<string> GetProducts()
{
    return Observable.Create<string>(
        o =>
        {
            using(var conn = new SqlConnection(connectionString))
            using (var cmd = new SqlCommand("Select Name FROM SalesLT.ProductModel", conn))
            {
                conn.Open();
                SqlDataReader reader = cmd.ExecuteReader(CommandBehavior.CloseConnection);
                while (reader.Read())
                {
                    o.OnNext(reader.GetString(0));
                }
                o.OnCompleted();
                return Disposable.Create(() => Console.WriteLine("--Disposed--"));
            }
        });
}

```

```
public void SimpleColdSample()
{
    var period = TimeSpan.FromSeconds(1);
    var observable = Observable.Interval(period).Publish();
    observable.Subscribe(i => Console.WriteLine("first subscription : {0}", i));
    Thread.Sleep(period);
    observable.Subscribe(i => Console.WriteLine("second subscription : {0}", i));
    Console.ReadKey();
    /* Output:
    first subscription : 0
    first subscription : 1
    second subscription : 1
    first subscription : 2
    second subscription : 2
    first subscription : 3
    second subscription : 3
    */
}
```





RESPONSIVE

RESILIENT





ELASTIC



MESSAGE DRIVEN

<http://reactivex.io/languages.html>

Java

C++

JavaScript

Ruby

C#

Python

C#(Unity)

Groovy

Scala

JRuby

Clojure

Kotlin

Swift

<http://reactivex.io/tutorials.html>

[2 minute introduction to Rx](#) by André Staltz

[A Playful Introduction to Rx](#) a video lecture by Erik Meijer

